CLAIMS

1. A method for the formation of a radio frequency antenna of a predetermined pattern on a surface area of a substrate which comprises applying a metal layer to said substrate and thereafter removing that portion of said metal layer which comprises all metal within said surface area on said substrate other than metal of said metal layer disposed in said predetermined pattern comprising said antenna.

2. A method as in Claim 1 wherein said substrate comprises a plurality of said surface areas and removal of said portion of said metal layer comprises removal within each of said surface areas, such that a plurality of said antennas is formed with each antenna of said plurality being disposed within a respective one of said surface areas.

3. A method as in Claim 2 further comprising subdividing said substrate into a plurality of segments, each segment having contained thereon a single antenna.

4. A method as in Claim 2 wherein at least two antennas of said plurality of antennas are of different shapes.

5. A method as in Claim 2 wherein at least two antennas of said plurality of antennas are of different metal thicknesses or densities.

6. A method as in Claim 1 herein said antenna comprises at least two portions, one of said portions having a density of metal different from another of said portions.

7. A method as in Claim 1 wherein said substrate comprises a web material.

8. A method as in Claim 7 wherein said web material comprises film or paper.

9. A method as in Claim 1 further comprising placing an image on said substrate.

10. A method as in Claim 9 wherein said image is placed by printing or optical image formation.

11. A method as in Claim 10 wherein placement comprises embossing, casting or injection molding.

12. A method as in Claim 10 wherein said printing comprises flexographic, offset, rotogravure, letter printing.

13. A method as in Claim 10 wherein said optical image formation comprises formation of holographic, optical variable device, diffractive, dot-matrix, computer-generated holographic or computer-generated optical images.

14. A method as in Claim 1 wherein metal is placed on both sides of said substrate.

15. A method as in Claim 14 wherein said demetallization forms antennas on both sides of said substrate.

16. A method as in Claim 15 wherein different types of antennas are formed on each side of said substrate.

17. A method as in Claim 15 wherein the same type of antenna is formed on each side of said substrate.

18. A method as in Claim 1 further comprising placing an image on said antenna.

19. A method as in Claim 18 wherein said image is placed by optical image formation.

20. A method as in Claim 19 wherein placement comprises embossing, casting or injection molding.

21. A method as in Claim 19 wherein said optical image formation comprises formation of holographic, optical variable device, diffractive, dot-matrix, computer-generated holographic or computer-generated optical images.

22. A method as in Claim 1 further comprising subjecting said demetallized web containing said antenna to a cold foil stamping process whereby said antenna is transferred to a second web.

23. A method as in Claim 22 further comprising having registration indicia placed on said substrate and said second web and passing said substrate containing said demetallized antenna and said second web through a marrying zone in registration.

24. A method as in Claim 23 wherein said registration is accomplished by adjusting linear speed of either of said substrate or said second web relative to the other.

25. A method as in Claim 24 wherein adjustment of said linear speed is controlled by a microprocessor.

26. An RF antenna article formed according to the process of Claim 1.

27. An RF antenna article as in Claim 26 further comprising an RF antenna formed on the surface of a substrate.

28. An RF antenna article as in Claim 27, further comprising a tag or label.

29. An RF antenna as in Claim 28 wherein said antenna has a thickness on the order of <2% of the thickness of said tag or label.

30. An RF antenna as in Claim 29 wherein said antenna has a thickness on the order of <1% of the thickness of said tag or label.